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SALT LAKE

April 29, 1993

Mr. Al Chernoff
UMTRA Project Director
U.S. Department of Energy
P.O. Box 5400
Albuquerque, NM 87185-5400

RE: Vitro Tailings Site Ground Water
Contamination

Dear Mr. Chernoff:

We would like to comment on DOE's scoping process for dealing with ground water contamination at the former Vitro site south of Salt Lake City. DOE is currently considering several options for the contamination which resulted from the former uranium milling operation at this site, including no action or passive restoration.

For the most part, contamination is currently limited to the shallow ground water system on the site. Deeper aquifers which are heavily used for municipal water supplies in the Salt Lake Valley are currently protected from contamination migrating from the shallow ground water by confining layers and a strong upward hydraulic gradient. If the artesian pressure in the deep aquifer were to decrease or be reversed, it could draw the shallow contamination into the deeper aquifers. This may have happened to some extent when the mill was active and obtained its water supply from a nearby deep well. Once contaminants are drawn into the deeper aquifer, it may be difficult or impossible to remediate the contamination.

Preventing the spread of contamination into a heavily-used aquifer, then, depends on maintaining the upward hydraulic gradient in the deep aquifer. Rapid growth in the Salt Lake Valley and resulting increases in ground water withdrawals may lead to a reduction in artesian pressure from the deep aquifer. Because these withdrawals are regional in extent, institutional controls on ground water production on the site may be inadequate to maintain artesian pressure in the deep aquifer. It is possible that a reduction or reversal of the hydraulic gradient may take place before natural flushing restores water quality in the shallow aquifer, a process that may take 50 to 150 years. The risk of contaminating the deeper aquifers is great enough during this time frame that

Mr. Al Chernoff
Page 2
April 29, 1993

DOE should take actions that would accelerate the natural flushing of contaminants in the shallow ground water, or possibly other remedial measures.

The exact form that such remediation may take would need to be determined after site characterization and review of the various options by DOE. We urge DOE to choose an option which would allow the most rapid reduction in shallow ground water contamination given the constraints imposed by site conditions.

Sincerely,



Don A. Ostler, P.E.
Director

DAO:MN:gt

cc: Salt Lake County Health Dept.
Dan Blake, Div. of Drinking Water
~~Blaine C. Hacking~~
Scott Hacking, Div. of Radiation Control

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FILE:VITRO GROUND WATER REMEDIATION